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Michael C. Richey

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EXAMINER

MASINICK, MICHAEL D

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 05/06/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/928,583

Applicant(s)

RICHEY, MICHAEL C.

Examiner

Michael D Masinick

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1, 11, and 21 are objected to because of the following informalities: Examiner is concerned with the overuse of the phrase “at least one”. The repetitive use of this phrase clouds the claims to a point where they are difficult to understand. Phrases like “at least one of the at least one of...” are not needed in order to establish the meaning of the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase “comparing comprises comparing the at least one authority model and the at least one actual model further based upon a temperature of the at least one component a temperature of a local environment of the at least one component.” appears to be missing a word or other linking words. This claim is not further treated on the merits, as the meaning cannot be ascertained, however similar claim 16 is treated below and the same rejection may apply.

### ***Claim Rejections - 35 USC § 102***

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 11, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,937,768 to Carver et al.

6. Referring to claims 1, 11, and 21, Carver shows a method of producing an assembly comprising at least one component, said method comprising: mapping the at least one component and thereafter electronically displaying at least one three-dimensional actual model representative of the at least one component based upon said mapping (Col 8, line 45 – Col 9, line 9); comparing the at least one actual model to an electronic display (workstation of claim 11) of at least one three-dimensional authority model (Col 8, lines 45-54); altering a position of at least one of the at least one actual model and the at least one authority model based upon said comparing such that the at least one authority model and the at least one actual model at least partially align (Col 21, lines 65 – Col 22, line 5); performing a machine operation on the at least one component based upon the altering the position of at least one of the at least one actual model and the at least one authority model (“assembly jig”); and dynamically displaying the at least one actual model such that the at least one actual model is automatically and repeatedly updated as the position of at least one of the at least one actual model and the at least one authority model is altered and the machine operation is performed (Column 39, lines 3-48).

7. Referring to claims 2 and 12, Carver shows designing at least one electronic three-dimensional authority model of the at least one component before mapping the at least one

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component, wherein the at least one authority model is based upon at least one feature of the at least one component (“Data sub sets of the master definition are selected for component parts of the article includeing coordinate points” - Abstract).

8. Referring to claims 3 and 13, Carver shows wherein said designing comprises designing at least one authority model based upon at least one authority feature of the at least one component and at least one attributed tolerance (“The master model is used to guarantee interchangeability and replacement, critical dimensional tolerances and match conditions.” –Col 2, lines 61), wherein said mapping comprises mapping at least one actual feature of the at least one component (previously shown alignment pegs), and wherein said comparing comprises comparing the at least one actual model and the at least one authority model based upon the at least one authority feature and at least one attributed tolerance and the at least one actual feature (Col 8, lines 45-54).

9. Referring to claims 5 and 15, Carver shows wherein said mapping comprises mapping the at least one component based upon a location and orientation of the at least one component relative to a flexible tool, wherein said comparing comprises comparing the at least one authority model and the at least one actual model based upon the location and orientation of the at least one component (alignment pegs as previously shown, also figure 15).

10. Referring to claims 7 and 17, Carver shows fabricating the at least one component before mapping the at least one component (“The master model is used to guarantee interchangeability and replacement, critical dimensional tolerances and match conditions. It is used during fabrication, rework, and verification of other subordinate tools.” Column 2).

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11. Referring to claims 8 and 18, Carver shows wherein fabricating the at least one component comprises generating at least one numerical control program from at least one three-dimensional authority model and thereafter machining the at least one component based upon the at least one numerical control program (Col 15, line 26 – Col 16, line 11).

12. Referring to claims 9 and 19, Carver shows wherein said comparing further comprises automatically and repeatedly comparing the at least one actual model and the at least one authority model as the machine operation is performed (Col 20 line 44 – Col 21, line 4).

Referring to claims 10 and 20, Carver shows repeatedly transferring data representative of the at least one actual model while dynamically displaying the at least one actual model, wherein transferring comprises transferring the data to a remote location (Col 17, line 57 – Col 18, line 18).

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,937,768 to Carver et al.

15. In references to what has been shown above, Carver does not specifically show wherein said workstation processing element is capable of comparing at least one authority model and at

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least one actual model further based upon a temperature of the at least one component and a temperature of a local environment of the at least one component.

16. However, Carver does show, in the background of the invention, that the temperature tolerance of these molding and cutting machines as are commonly used in this art are well known to affect the outcomes when parts are manufactured from a master model because of ambient temperatures (Col 2, lines 50-end).

17. It would have been obvious to one of ordinary skill at the time the invention was made to use the comparisons to the master model as shown above to do additional comparisons based upon the temperature of the component and the ambient temperature in the area because it is well documented that temperature changes can affect the outcome of manufacturing processes.

18. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,937,768 to Carver et al in view of U.S Patent No. 5,460,758 to Langer et al.

19. Carver as shown above does not specifically show wherein the at least one actual model comprises at least one actual model data set, wherein the at least one authority model comprises at least one authority data set, and wherein said workstation processing element is capable of comparing by determining a best fit of the at least one actual model with the at least one authority model from the at least one actual model data set and the at least one authority model data set.

20. Langer shows the use of data sets in a CAD drawing comparison similar to Carver by using a best fit model to determine the best process of using the CAD data.

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21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the best fit data set comparison system of Langer in the system of Carver because by combining these correction data with the associated CAD data, for example by corresponding consideration of the determined deviation of the shape of the object in viewing direction and perpendicular thereto, the computer determines corrected CAD data and uses the same for the production of the next object.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D Masinick whose telephone number is (703) 305-7738. The examiner can normally be reached on Mon-Fri, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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